

REMARKS

Claims 1, 5 and 9-25 are currently pending in the application; with claims 1, 5, 19, 21, 23 and 25 being independent. Claims 1 and 5 have been amended, and claims 3 and 8 have been cancelled. In this Reply, claims 9-25 have been added. Claims 1, 3, 5, and 8 were pending prior to the Office Action.

The Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein. Applicants respectfully request favorable consideration thereof in light of the amendments and comments contained herein, and earnestly seek timely allowance of the pending claims.

Claim Rejections - 35 USC §103

The Examiner rejected claims 1, 3, 5, and 8 under 35 U.S.C. § 103(a) as allegedly being unpatentable over International Patent Publication No. WO 02/47246 to Yoshimine et al. (“Yoshimine”) in view of U.S. Patent No. 6,748,807 to Yoshiuchi et al. (“Yoshiuchi”). Applicants respectfully traverse this rejection.

Applicants have amended independent claims 1 and 5.

Applicants have amended claim 1 to recite method for preventing signal coupling between two or more flow-through type chip-based mounted piezoelectric resonator sensors used in an electrically conductive liquid, wherein each of the sensors has a flowcell body [...], comprising: making said flowcell body out of a non-conducting material [...].

Applicants have also amended claim 5 to recite piezoelectric resonator sensor comprising: a flowcell body comprising a resonator connected to a single oscillator circuit, wherein said flowcell body is made of a non-conducting material.

To establish a *prima facie* case of obviousness, the Examiner has the burden of meeting the basic criterion that the prior art must teach or suggest all of the claim limitations.

Regarding this basic criterion, the Applicants submit that Yoshimine and Yoshiuchi do not disclose or suggest making a flowcell body out of a non-conducting material. Yoshimine and Yoshiuchi also do not disclose or suggest a piezoelectric resonator sensor comprising a flowcell body comprising a resonator connected to a single oscillator circuit, wherein the flowcell body is made of a non-conducting material.

On page 3 of the Office Action the Examiner stated that Yoshimine discloses that a flowcell body is made of a non-conducting material at page 14 lines 20-22.

However, at page 14 lines 20-22, Yoshimine merely discloses that, in Figures 1 and 2, the chip quartz oscillator S has a rectangular quartz oscillator 2 placed on the upper surface 1' of a substrate 1, wherein the substrate 1 is made of any material which is rigid, non-conducting or able to retain a non-conducting coating, non-soluble in the liquids being tested and preferably inexpensive and easy to work with.

Hence, Yoshimine merely discloses that the substrate 1 is made of a non-conducting material. Yoshimine does not disclose that the flowcell body of the chip quartz oscillator of Figures 1 and 2 is made of a non-conducting material. The substrate 1, by itself, does not represent a flowcell body of the chip quartz oscillator of Yoshimine.

In fact, Yoshimine does not disclose or suggest making any flowcell body out of a non-conducting material. Hence, Yoshimine fails to teach or suggest all of the elements for claim 1.

In Yoshimine, substrate 1, by itself, is also not a flowcell body comprising a resonator connected to a single oscillator circuit. Hence, Yoshimine does not disclose or suggest a piezoelectric resonator sensor comprising a flowcell body comprising a resonator connected to a single oscillator circuit, wherein the flowcell body is made of a non-conducting material. Hence, Yoshimine fails to teach or suggest all of the elements for claim 5.

Yoshiuchi discloses a sensor designed to be used in imaging apparatuses, such as video cameras, not liquid-phase applications. Yoshiuchi does not disclose any resonator sensor including a flowcell body. Yoshiuchi also does not disclose a piezoelectric resonator sensor comprising a flowcell body comprising a resonator connected to a single oscillator circuit.

Hence, Yoshiuchi fails to teach or suggest all of the elements for claim 1, because Yoshiuchi does not disclose or suggest making any flowcell body out of a non-conducting material. Yoshiuchi also fails to teach or suggest all of the elements for claim 5, because Yoshiuchi does not disclose or suggest a flowcell body made of a non-conducting material.

For all of the above reasons, taken alone or in combination, Applicants respectfully requests reconsideration and withdrawal of the 35 U.S.C. 103 (a) rejection of claims 1 and 5.

New Claims

In this Reply, claims 9-25 have been added.

Among the added claims, claims 9-13 depend from claim 1 and are allowable at least by virtue of their dependency. Claims 14-18 depend from claim 5 and are allowable at least by virtue of their dependency.

Claim 19 is an independent claim. Claim 19 is allowable at least for the reason that Yoshimine and Yoshiuchi do not disclose or suggest that poles connected to individual conducting shields of sensors have the same polarity in the single power supplies. Yoshimine and Yoshiuchi do not discuss how multiple individual conducting shields are connected to power supplies. Specifically, Yoshimine and Yoshiuchi do not disclose or suggest that individual conducting shields of two or more piezoelectric resonator sensors are each connected to one pole of a power supply, such that the poles connected to the individual conducting shields have the same polarity in the power supplies.

Claim 21 is an independent claim. Claim 21 is allowable at least for the reason that Yoshimine and Yoshiuchi do not disclose or suggest applying individual conducting shielding material to interior walls of an oscillator circuit cavity for each sensor among two or more flow-through type chip-based mounted piezoelectric resonator sensors. Yoshimine and Yoshiuchi do not discuss oscillator circuit cavities and conducting shielding for oscillator circuit cavities.

Claim 23 is an independent claim. Claim 23 is allowable at least for the reason that Yoshimine and Yoshiuchi do not disclose or suggest a piezoelectric resonator sensor comprising: a body comprising a resonator connected to a single oscillator circuit, wherein an oscillator circuit cavity is shielded by a first conductive shield applied to interior walls of said cavity. Yoshimine and Yoshiuchi do not discuss an oscillator circuit cavity shielded by a first conductive shield applied to interior walls of said cavity.

Claim 25 is an independent claim. Claim 25 is allowable at least for the reason that Yoshimine and Yoshiuchi do not disclose or suggest a method for preventing signal coupling between two or more flow-through type chip-based mounted piezoelectric resonator sensors [...] wherein said conducting shields of different sensors are not interconnected, and each flow tube interconnecting adjacent sensors is not shielded.

Conclusion

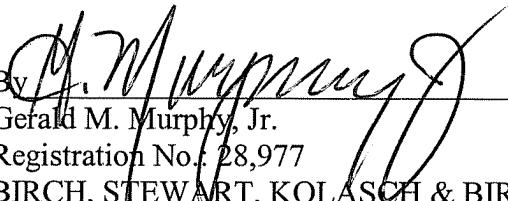
In view of the above amendments and remarks, this application appears to be in condition for allowance and the Examiner is, therefore, requested to reexamine the application and pass the claims to issue.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Corina E. Tanasa, Limited Recognition No. L0292 under 37 CFR §11.9(b), at telephone number (703) 208-4003, located in the Washington, DC area, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,


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